

Impact of Human Activities on Endangered Primates in Degraded Mangrove Forests

Where

Brazilian Northeast East

When

AY 24-25 to AY 28-29

Mentors

Stu Hamilton, ECU, and UFMA

Andrea Presotto, Salisbury, and UFMA

One More (RF??)

Project Overview

Understanding the routing behavior of mammals is a critical component of successful conservation. Traditionally, studies on wildlife navigation presume that animals seek beneficial resources and view travel as a necessary cost to access these resources. Animals adapt their navigation strategies based on the costs associated with resource searching. However, significant changes in natural coastal habitats due to human activities in and around mangrove forests over the last century have created species-specific landscapes of fear (LoF). This raises critical questions: Do wild mammals adjust their navigation strategies in response to increased human presence and activities in mangroves? Can human activities influence animals to adopt safer routes within mangrove forests? The conventional notion is that animals' navigation abilities are determined by how they acquire, store, and retrieve spatial information, such as landmarks, food source locations, and available routes within their home range. This project investigates whether mangrove LoF influences wild primates to opt for habitual routes, challenging the conventional view that these routes are less efficient, and explores broader questions relating to primate behavior in human-dominated and degraded mangrove landscapes.

The project will involve the collection and analysis of both new and pre-existing geolocated data. High-resolution landscape metrics and data will be obtained by deploying UAVs, LiDAR, and obtaining remote sensing data. This wealth of spatial data will be collected, processed, and analyzed using a combination of GIS, remote sensing techniques, and statistical models. These analytical approaches will enable us to explore whether wild primates are making a trade-off between navigational efficiency and safety within differing LoF.

Student

We are looking for a Portuguese-speaking student to help develop this project and assess the impact on primate behavior in degraded mangrove forests in the mangrove biome of northeastern Brazil. We are looking for GIS, Primate behaviour, and field research experience.