* File “Master(5.27.22).csv” = Master Dataset of all regions we collected data in for Costa Rica. Located in the “South- Lily” under “Models and Scripts”.
* File “New South Data.xlsx” =
  + - From this I manually combined similarly named cameras K1-K9 were combined with K01 - K09 and Pila01 and Pila01B in excel and exported as csv file, “NewCom\_CR\_Dataset01\_South.csv” Located in the “South- Lily” under “Models and Scripts”.
* File “Southside.Rmd” = This script was used to analyze a lot of the south data, however the only data actually used in the analysis was the ones used to create and elevation map based on camera trap locations.
  + - **Files to load in** (Located in the “South- Lily” under under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
      * “CT\_Locations\_CR\_Dataset01\_South\_Lily.csv
      * "SRTM\_CostaRica\_1arc.tif" located in “Data and Plots” file.
    - **Output**
      * "CR Elevation Map"

RFiles

* File “AllrecsMonthMatrix.R” = We used this code to create and run occupancy models for the Puma. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File “NewCom\_CR\_Dataset01\_South.csv” = all data from south dataset, with paired cameras combined into 1 camera trap, subsetted from camera master dataset, “Master(5.31.22)”
    - File "AllSourthRecs.csv" = Data set that included all records from the South region. Used this to create “recs.all\_CR\_Dataset01\_South\_06Jun2022.csv"
  + **Common Errors**
    - Error - Wont run
      * Solution: make sure the years are accurate and to change each place that has the year if there is a change needed
  + **Output**
    - "CR\_d2.CT.IndRecs.csv" -> we used this to make the “4 month period.xlsx” which shows the number of individual records for each month per year. From this we were able to determine which months for each camera had the most data to use for analysis
* File “Setup\_South\_Window.R” = We used this to separate independent records into our specific 4 month window determined by the chart made in the last code. The bottom portion is some practice for the basic occupancy model. The species specific ones are complete. I did use these to make a few csv files to use later. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File “NewCom\_CR\_Dataset01\_South.csv” = all data from south dataset, with paired cameras combined into 1 camera trap, subsetted from camera master dataset, “Master(5.31.22)”
    - File "CR\_d1.CT.IndRecords\_Lily.csv" = Table made from “4 Month period.xlsx” contains start month, start year, end month, end year of the 4 month window for each camera
    - File "recs.all\_CR\_Dataset01\_South\_06Jun2022.csv" = dataset created with all individual records made/taken during each station's specific time window. Includes station, species, date and time.
    - File “ston\_CR\_Dataset01\_South\_06Jun2022.csv”= dataset created that makes a table of detection at each station
    - File "Ct\_South\_ElevHFI.csv" = metadata extracted from satellite NASA data for elevation and human footprint index.
  + **Common Errors**
    - Error - plus sign in console after running.
      * Solution: Make sure highlighted all matching brackets especially loops
  + **Output**
    - "Site\_Covariates.csv
    - "Peccary Occ.csv"
    - "Paca Occ.csv"
    - "Puma Occ.csv"
    - "Effort Chart.csv"
* File “Extract MetaData.R” = We used this code to extract metadata from covariate satellite data found online. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File "CT\_Locations\_CR\_Dataset01\_South\_Lily.csv” = This data was subsetted from “NewCom\_Cr\_Dataset01\_South.csv” to include camera station and latitude and longitude of location
    - File "SRTM\_CostaRica\_1arc.tif" = dataset retrieved online of Costa Rica elevation data extracted based on camera coordinates.
    - File “HFI\_CostaRica\_EPSG4326.tif" = dataset retrieved online of human footprint index extracted based on camera coordinates.
    - File "WaterSurf\_CostaRica\_EPSG4326.tif"= dataset retrieved online of water suf data (did not include in analysis due to very small numbers).
    - File "PrimForest\_CostaRica\_EPSG4326.tif" = metadata extracted from satellite NASA data for primary forest cover, extracted based on camera coordinates.
    - File "NPP\_CostaRica\_1arc.tif" = metadata from satellite NASA data for net primary productivity of vegetation of Costa Rica. Data extracted based on camera coordinates
    - File "Distances\_CR\_Dataset01\_Lily.csv" = metadata extracted from satellite NASA data for distances to roads and rivers.
    - File "FragMetrics\_CR-D1\_Lily.csv" = metadata already extracted and placed in table of forest fragmentation
  + **Common Errors**
    - Error - plus sign in console after running.
      * Solution: Make sure highlighted all matching brackets
  + **Output**
    - "Site\_Covariates.csv
    - "Ct\_South\_ElevHFI.csv"
* File “Paca\_Occu\_Model.R:” = We used this code to create and run occupancy models for the Paca. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File “Paca Occ.csv” = Occupancy table created by code in, “Setup\_South\_Window.R”
    - File "Effort Chart.csv" = Detection chart for each section, the numbers correlate to how many times a species was detected per day per 7 day week.
    - File "Site\_Covariates.csv" = dataset created using extract meta.data and combining columns from “Ct\_South\_ElevHFI.csv” and “FragMetrics\_CR-D1\_Lily.csv”
  + **Common Errors**
    - Error - Model does not converge/ produced NaN’s
      * Solution: Not a good model
  + **Output**
    - Paca\_AIC\_Table.csv"
* File “Pecc\_Occu\_Model.R:” = We used this code to create and run occupancy models for the Peccary. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File “Peccary Occ.csv” = Occupancy table created by code in, “Setup\_South\_Window.R”
    - File "Effort Chart.csv" = Detection chart for each section, the numbers correlate to how many times a species was detected per day per 7 day week.
    - File "Site\_Covariates.csv" = dataset created using extract meta.data and combining columns from “Ct\_South\_ElevHFI.csv” and “FragMetrics\_CR-D1\_Lily.csv”
  + **Common Errors**
    - Error - Model does not converge/ produced NaN’s
      * Solution: Not a good model
  + **Output**
    - Pecc\_AIC\_Table.csvt.csv"
* File “South\_Occu\_Models\_Puma.R” = We used this code to create and run occupancy models for the Puma. Located in the “South- Lily” under “Models and Scripts”.
  + **Files to load in** (Located in the “South- Lily” under “Data and Tables” in the “R Workshop” folder found in the “Botts and Mooring Summer Research” folder on Google Drive)
    - File “Puma Occ.csv” = Occupancy table created by code in, “Setup\_South\_Window.R”
    - File "Effort Chart.csv" = Detection chart for each section, the numbers correlate to how many times a species was detected per day per 7 day week.
    - File "Site\_Covariates.csv" = dataset created using extract meta.data and combining columns from “Ct\_South\_ElevHFI.csv” and “FragMetrics\_CR-D1\_Lily.csv”
  + **Common Errors**
    - Error - Model does not converge/ produced NaN’s
      * Solution: Not a good model
  + **Output**
    - Puma\_AIC\_Table.csv