

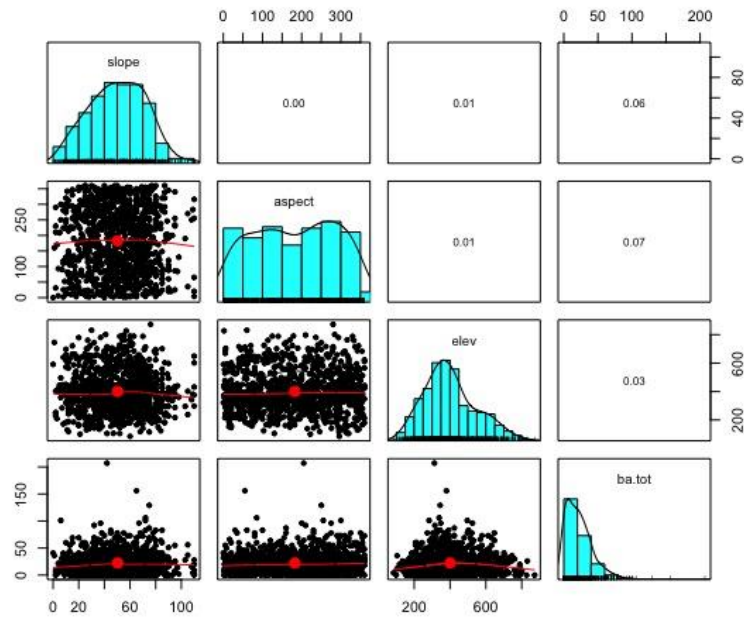
Kaitlyn Valentinetti

September 28, 2022

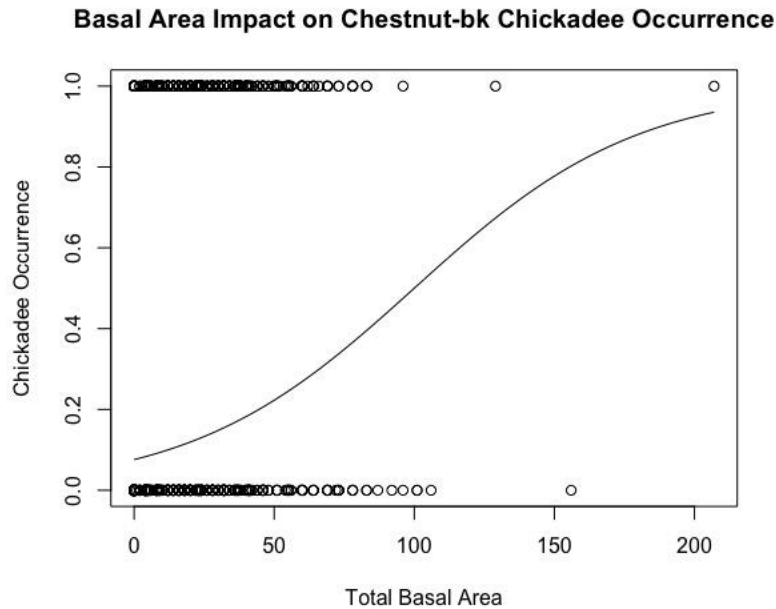
ECo 634: Michael France Nelson

Lab 3: Data Exploration and Deterministic Functions

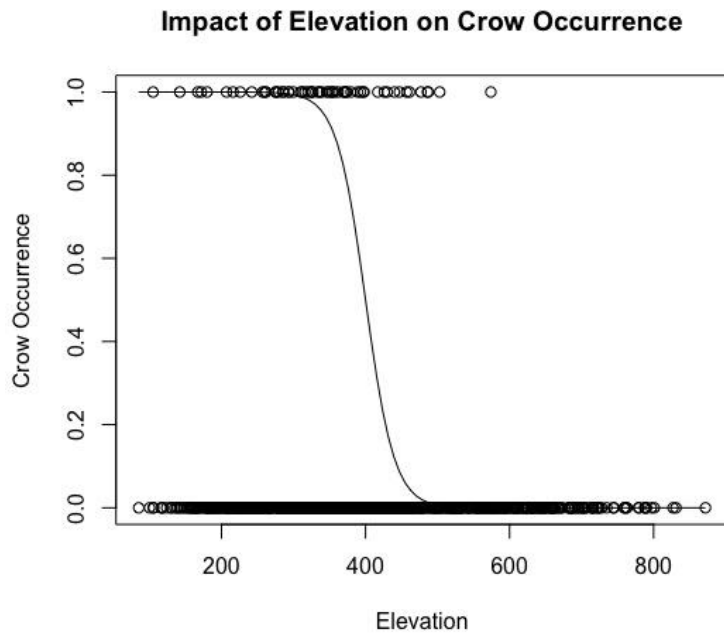
1. Basal area is a measure of tree cover in a given area. It is measured by calculating the area of a cross-sectional slice of every tree in a portion of forest. In turn, you are able to quantify the amount of cover trees are providing—larger cross-section area is associated with more tree cover.
- 2.



3.



4. According to the model above, Chestnut chickadees do not seem to prefer low or high tree cover; however, I believe this observation is due to a lack of data at areas with higher tree cover. As a result, most of the data points are between a total basal area of zero and 100. Therefore, the logistic model does not seem to be a good fit because there is not an increase or decrease of basal area preference.



- 5.
6. In this model of American Crow occurrence, there seems to be a slight tendency for crows to prefer habitats at lower elevation although there are still many low elevation

data points where crows were not seen. Most of the crows occurred between 200-400 meters (?) in elevation. With that said, the logistic model is not the best fit but not the worst. It represents the drastic decline in presence after 400 m (?), but it doesn't fit the several absent data points that came before 400m.

7. The total number of Gray Jays observed at all sampling sites are 181 individuals.
8. `sum(dat_all$GRJA)`
9. The total number of sampling sites in which Gray Jays are observed is 110 sites.
10. `sum(dat_all$GRJA > 0)`