MA 315 – Lab – Patterns of bird species

Download the data set “Patterns of Bird Species” from Moodle.

The data set is as follows:

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Source: F. Vuilleumier (1970). "Insular Biogeography in Continental Regions.  I. The
Northern Andes of South America," American Naturalist. Vol.104:373-388.

Description: Patterns of bird species among "islands" of mountain tops in 15 regions of
the Andes.

Variables/Columns
Islands of Paramo Vegetation
Total Number of Species
Number of species of South American origin
Number of endemic taxa
Percent of endemic taxa
Area (km^2)
Base altitude  (meters)
Elevation  (meters)
Distance from Paramo 1 (km)     /* 1 for Paramo 1 for logs  */
Distance to nearest island of vegetation  (km)
Distance to nearest island in south   (km)
Distance to nearest large island (km)
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Use a linear regression analysis to determine which of the physical descriptive data categories (Area, base altitude, elevation, etc.) best explains the total number of species found in each “island.”

When you determine which variable best explains the total number of species, provide the following:

1. A plot showing the data and your regression line
2. The equation of your line of best fit
3. The *p* value for the hypothesis test on the significance of regression
4. A sentence or two explaining the meaning of this *p* value: Exactly what is it the probability of?
5. A 95% confidence interval on the slope of your regression line
6. A sentence or two explaining the meaning of this confidence interval