FORS 538

GLM Assignment

The effects of climate variability on forest carbon dynamics is an area of active research due to its implications for the strength and durability of the terrestrial carbon sink. Here I accessed a dataset (https://data.nceas.ucsb.edu/view/knb.1274.1) of measured aboveground net primary productivity (ANPP; mg $ha^{-1}yr^{-1}$) and climate variables including MAT (mean annual temperature) and MAP (mean annual precipitation) from sites globally. With these data, I would like you to fit a model that examines the relationship between ANPP and climate while considering the following:

1) What are the distributional characteristics of the response variable ANPP?
2) What are the distributional characteristics of the predictor variables; MAT and MAP?
3) Describe any distributional features of the response variable that are not easily accommodated by linear regression models.
4) Describe any initial or exploratory analyses, how you arrived at a final model, and model diagnostics.
5) Explain how the distributional features identified previously have or have not been addressed by your final model.
6) Provide an interpretation of the coefficients in your final model.
7) Characterize your model uncertainty and skill.

Work in groups of two. Please include graphics in line with the text and properly reference those graphics in the text. Place annotated R code in an appendix.