

Perform the following task using R (alternatively, SAS or MATLAB or comparable programming programs would also be acceptable). Write your answers on a Word File, paste graphs on it, and make it an orderly report with any comments you find important to make. Upload it as PDF together with your cover letter and CV. Moreover, upload also a second file with the annotated R codes (or codes of other programs) you used (in case, there are technical problems in uploading the code file, you can copy the code in a Word File and upload it as PDF). In summary, your application should contain four files: cover letter, CV, data analysis report, code file.

### Question 1

Make a plot showing ANPP for the different biome types (ANPP on the vertical axis and biome type on the horizontal axis). Choose a graph showing not only mean or median value but also showing the variability among sites (within each biome type).

### Question 2

Transform each ANPP value as logarithmic value ( $\log\text{ANPP}$ ). Make a Kruskal-Wallis test to verify if  $\log\text{ANPP}$  is different between managed sites (management category: M) and not-managed sites (management category: N). Is there a significant difference?

### Question 3

Plot a graph showing the dependency of ANPP to annual temperature (with a point in the graph for each site). Can we make a linear model (ANPP vs annual temperature) for these data? If yes, do it; if not, why it is not possible?

### Question 4 (optional)

Show the sites on the world map in the way that you think more appropriate to give an idea of the spatial distribution of the sites.