Code Evaluation questionnaire

this document aims to provide a guideline how to evaluate (R) code in my course

Please note: not all item might be applicable - please cross-out any non-relevant part.

1. **Informative naming of the script?** ☐ absolutely ☐ not really because: _____

Script Meta-Information

2. **A header with information exists at the beginning of the script?** ☐ Yes ☐ No
3. **Authors name**: _____
4. **Contact details are provided (email, URL, git)?** ☐ Yes ☐ No
5. **Date of development is listed?** ☐ Yes ☐ No
6. **Main purpose of the script is explained?** ☐ yes ☐ not really because: _____
7. **Needed input is defined (format incl. which information are required?**(e.g. shp with column of type x and content of y) ☐ yes ☐ not really because: _____
8. **Output is defined?** (incl. explanations, format etc.) ☐ yes ☐ not really because: _____
9. **R version and R packages needed are listed?** ☐ yes ☐ not really because: _____
10. **Operating system used is listed or on which one it has been tested?** ☐ yes ☐ no
11. **Required other software is explained?** ☐ yes ☐ not really because: _____
12. **Informative header is well formatted?** ☐ yes ☐ not really because: _____
13. **All necessary details are provided?**
    - ☐ Yes, I understand its aim and needed input
    - ☐ No, I need to check the script carefully
    - ☐ just some parts are provided.
14. **What do you think until now what the output/results will be? Describe it briefly before checking the actual script:**

_____

_____

_____

_____

Actual Code for the Analysis

15. **Data import is generic?** (no full paths, direct import possible) yes ☐—☐—☐—☐—☐ no
16. **Well commented?** horrible ☐—☐—☐—☐—☐ fantastic
    remarks: _____
17. **Ratio of Comments vs. Code?** horrible ☐—☐—☐—☐—☐ fantastic
18. **Easy to read?** (appropriate indentation and spacing) horrible ☐—☐—☐—☐—☐ fantastic
19. **The script is written for generic data analysis?** ☐ absolutely ☐ not really because: _____
20. **Does the code require a rigid data structure?** (e.g. specific column names in data.frame) ☐ absolutely ☐ no, quite flexible
21. **Is the code flexible?** (i.e allows inputs of different data types)
    ☐ absolutely ☐ not really because: _____
22. **Data can be retrieved without contacting the author?**
    ☐ absolutely ☐ not really because: _____

23. **Code follows a logical structure?** □ absolutely □ not really because: _____
24. **Code only includes useful information?** □ absolutely □ not really because: _____
25. **Are the variables derived within the code self-explanatory?** (e.g. through clear variable names and/or comments) □ absolutely □ not really because: _____
26. **Does the script uses a standard documentation structure/naming convention?** □ absolutely □ not really because: _____
27. **Script can be run easily on other data sets (generic code)?** □ absolutely □ not really because: _____
28. **Appropriate use of commands - no unnecessary complex code snippets?** □ absolutely □ not really because: _____
29. **(If a function) is provided: are example code/data provided/explained?** □ absolutely □ not really because: _____
30. **Does the code minimize the storage of data?** (e.g. removal of unused variables) □ yes □ no
31. **Does the code minimize the use of RAM?**(e.g. appropriate subsetting, no re-reading data) □ yes □ no
32. **Data handling and transformation is coherent and well commented?** yes □—□—□—□—□ no
33. **Novel code not covered in the course is used?** a lot □—□—□—□—□ just known commands
34. **Script is actually a package?** □ yes □ no
35. **Proper documentation (man pages) is provided for this package?** □ yes □ no

Code Impression

36. **The script triggered interest and you learned new things?** yes, a lot □—□—□—□—□ no, not a bit
37. **Please describe what was special/interesting:**

    _____

    _____

    _____
38. **Script is fast (based on performance measures)** yes □—□—□—□—□ no
39. **The code can be executed without any fixes?** □ absolutely □ not really because: _____
40. **Which parts should be improved?**

    _____

    _____

    _____
41. **What is missing?**

    _____

    _____

    _____

Graphs and Maps

42. **Graphs or Maps are providing key messages?** □ absolutely □ not really because: _____
43. **Plots/Maps are are self-explanatory?** □ absolutely □ not really because: _____
44. **Plots/maps are informative?** yes □—□—□—□—□ no
45. **Graphs include all necessary items?** (legend, axis title etc.) □ absolutely □ not really because: _____
46. **Plots/maps are not overloaded?** yes, clean □—□—□—□—□ no, totally cluttered

47. Plots/maps layout is consistent through-out the script?
□ absolutely □ not really because: _____

48. Plots/maps have appropriate colour scheme? □ absolutely □ not really because: _____

49. Maps have scale bars, legend, coordinates? □ absolutely □ not really because: _____

50. Maps include landmarks, cities, roads for orientation?
□ absolutely □ not really because: _____

Overall Impression

Please evaluate the following parts

51. Readability horrible □—□—□—□—□ fantastic

52. Information horrible □—□—□—□—□ fantastic

53. Structure horrible □—□—□—□—□ fantastic

54. Do you think it qualifies for being scientifically reproducible?

- □ yes
- □ no
- □ needs some more work
- □ details: _____

55. Is the script really worth the effort? □ Yes, totally. □ Probably not. □ Don't know.

56. Would you be interested to use this script for your analysis?

- □ yes, would love to
- □ no, not really anything I couldn't do myself
- □ yes, definitely parts of it.
- □ No clue what is does. I just can't figure it out.

57. Please describe your impression.

_____

_____

_____

58. When you check your anticipated results/output (Q 14) at the beginning - are your expectations met? and if no, why not:

_____

_____

_____

59. What do you especially like about this script:

_____

_____

_____

_____

_____

60. What do you especially <u>dislike</u> about this script: