IRDR0010 – Advanced Hazards

Information about the final coursework – 75% of the final grade.

The coursework is due on April 28th at 12.00 UK Time

Students with SoRA will receive an extension that will be automatically applied on the AssessmentUCL platform.

Submissions will be made via AssessmentUCL and will be checked using TurnItIn for plagiarism. It goes without saying that your work must be your own and that any evidence of copying, collusion, or similar effort to present the work of others as your own will be investigated under the University rules for plagiarism, which includes a maximum penalty of exclusion from your degree programme.

The coursework will be marked out of 100, with the marks available described in the following section.

- There is a maximum 3000 words limit.
- Up to 10% over the limit will result in no penalty, > 10% over the word limit will result in a 10% mark deduction (rounded down for fractional marks) for that question.

The coursework title is: Estimate the flood coincidence risk for pairs of stations in an area/river of your choosing.
You may use the R code provided in Week 8 Lecture to do your analysis however you are not allowed to use the same data as the lecture and practical. You can use python coding language rather than R if you wish. You are also allowed to use advanced machine learning methods instead of the ones explained in the Week 8 Lecture, but before starting, you **must** confirm with me to ensure compatibility with the course objectives. If you wish to study the Colorado river (like in the Week 8 Practical) you may choose other stations to do your analysis.

The report should have the following sections and the associated marks for each section are shown in the brackets.

Data preparation and selection [5%] Select an appropriate area to study, find the annual peak flow data and format them, if necessary, for your analysis. Include a link to where you found your data. You must use data from minimum 4 stations and maximum 6 stations.

Introduction [20%] Describe the area you are studying and justify your selection. Include a short literature review for the flood hazard/risk in your chosen area.

Methodology [25%] Describe the statistical/machine learning methods used in your report and all the steps you undertook to complete your analysis. This includes mathematical expressions and formulas.

Results [30%] Present your results and interpret your findings.

Discussion [20%] Critically assess your results and discuss them in the context of your study area. In the discussion mention also results and limitations.

I will not answer technical questions or look at your data. This document and Moodle page have sufficient details to help you complete the exercise. Use your knowledge, your judgement and the internet to find answers.

Good luck everyone,

Saman.